

KABACHNIK, M.I.; GILYAROV, V.A.

Imides of phosphorus acids. Report No.6: Trialkyl-N-acylimido-phosphates. Izv.AN SSSR.Otd.khim.nauk no.5:819-823 My '61.
(MIRA 14:5)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Phosphoric acid)

KABACHNIK, M.I.; GILYAROV, V.A.; POPOV, Ye.M.

Imides of phosphorus acid. Report 7: Amideimidolic tautomerism of
amides of pentavalent phosphorus acids. Izv.AN SSSR, Otd.khim.nauk
no.6:1022-1030 Je '61. (MIRA 14:6)

1. Institut elementoorganicheskikh soedineniy AN SSSR.
(Phosphorus acids) (Amides)

KABACHNIK, M.I.; TSVETKOV, Ye.N.

Dichlorides of p-styrylphosphinous and p-styrylphosphinic acids.
Izv.AN SSSR.Otd.khim.nauk no.10:1896-1897 O '61. (MIRA 14:10)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Phosphinous acid) (Phosphinic acid)

5.3630

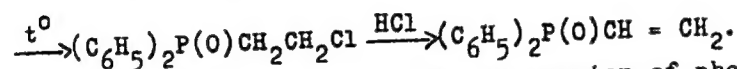
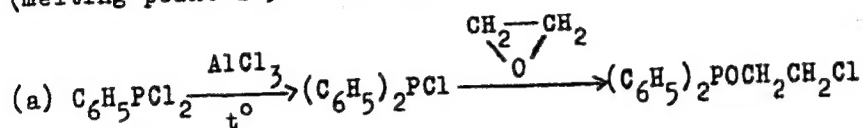
29521
S/062/61/000/011/008/012
B103/B147

AUTHORS: Kabachnik, M. I., Medved', T. Ya., Polikarpov, Yu. M., and
Yudina, K. S.

TITLE: Synthesis of diphenyl-vinyl phosphine oxide

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh
nauk, no. 11, 1961, 2029 - 2031

TEXT: The authors synthesized: (a) Diphenyl-vinyl phosphine oxide (melting
point 116 - 117°C) and (b) tetraphenyl-ethylene-diphosphine dioxide
(melting point 269 - 270°C):



The first synthesis stage, the conversion of phenyl-dichloro phosphine
Card 1/3

29521

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B103/B147

Synthesis of diphenyl-vinyl phosphine...

to diphenyl-chloro phosphine was effected by catalytic disproportionation of the former in the presence of $AlCl_3$ and constant distilling off of the PCl_3 formed. The yield in diphenyl-chloro phosphine was 70%. This method is simple and gives easily reproducible results. Ditolyl-chloro-phosphine was obtained in the same manner (yield 65%). The second synthesis stage was achieved by passing a stream of ethylene oxide through diphenyl-chloro phosphine. The reactivity of the P-Cl bond is reduced owing to the introduction of two phenyl groups into the atom of the trivalent phosphorus. PCl_3 showed the most vigorous reaction with ethylene oxide; whereas phenyl-dichloro phosphine was somewhat less effective. The reaction with diphenyl-chloro phosphine is exothermic. It requires, however, heating at $60^\circ C$ for 1 hr until it is completed. The third synthesis stage, the isomerization of the β -chloroethyl ester of diphenyl-phosphinous acid to diphenyl- β -chloroethyl phosphine oxide, does not take place smoothly. Different quantities of both the final product mentioned and b): $(C_6H_5)_2P(O)CH_2CH_2P(O)(C_6H_5)_2$ are formed depending on the pressure used (atmospheric pressure or vacuum). Ethylene diphosphine derivatives were produced previously (M. I. Kabachnik, Izv. AN SSSR, Otd. khim. n. 1947, 631); the same holds for dioxides (M. I. Kabachnik, T. Ya. Medved', Yu. M. Card 2/3

KABACHNIK, M. I.

25177

S/190/61/003/007/021/021
B'01/B230

158050

AUTHORS:

Tsetlin, B. L., Medved', T. Ya., Chikishev, Yu. G., Polikarpov, Yu. M., Rafikov, S. R., Kabachnik, M. I.

TITLE:

Radiation polymerization of tertiary monovinylphosphine oxides

PERIODICAL:

Vysokomolekulyarnyye soyedineniya. v. 3, no. 7, 1961, 1117 - 1118

TEXT: This letter to the editor reports the synthesis of polymers on the basis of tertiary monovinylphosphine oxides (Ref. 1, M. I. Kabachnik, T. Ya. Medved', Yu. M. Polikarpov, Dokl. AN SSSR, 135, 849, 1960; M. I. Kabachnik, Chang Jung-yu, Ye. N. Tsvetkov, Dokl. AN SSSR, 135, 601, 1960) to be of great importance due to the high thermal and chemical stability of phosphine oxides. Experiments to polymerize such monomers by applying initiators of the radical polymerization (benzoyl peroxide, acetoisobutyric acid dinitrile) failed to produce satisfactory results. Oxides of the tertiary diallyl- and dimethallyl phosphines were, in the presence of

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Radiation polymerization of . . .

S/190/61/001/001/021/021
B101/B230

this type of initiators, either not polymerized at all, or their polymerization proceeded at an extremely low rate with very poor yield (Ref. 2, see below). Authors conducted experiments to initiate polymerization of diethylvinylphosphine oxide (I) and diphenylvinylphosphine oxide (II) by radiation. As source of radiation an X-ray irradiation apparatus was used. Samples were exposed to irradiation in molten state in vacuum. In irradiation of (I) the dose rate was $4.5 \cdot 10^{16}$ ev/ml.sec at an irradiation time of 30 hr at 70°C . As a product, a solid polymer was obtained having a molecular weight of $\sim 33,000$ (the monomer was distilled off under vacuum). Degree of conversion amounted to $\sim 80\%$, radiation yield G of the polymerization was ~ 80 molecules of the monomer per 100 ev. The polymer is well soluble in water, ethanol, and benzene. In irradiation of (II), the dose rate was $4 \cdot 10^{15}$ ev/ml.sec for a time of 50 hr at 130°C . A polymer was obtained having a molecular weight of $\sim 30,000$; degree of conversion $\sim 60\%$, radiation yield ~ 350 molecules per 100 ev. The polymer is soluble in ethanol and benzene when heated, and may be precipitated from alcohol by adding a small quantity of water. Vitrification temperature of the

Card 2/3

Radiation polymerization of....

25277

S/190/61/003/007/021/021
B101/3230

reprecipitated polymer (II) is about 180°C (determined by thermomechanical method, Ref. 3; B. L. Tsetlin, V. I. Gavrilov, N. A. Velikovskaya, V. V. Kochkin, Zavodsk. lab., 22, 352, 1956). It has been proved hereby that the radiation polymerization is an efficient method to obtain polymers on the basis of oxides of monovinylphosphines. Mechanism of the process is being studied at present. [Abstracter's note: Complete translation.] There are 3 references: 2 Soviet-bloc and 1 non-Soviet-bloc. The reference to English-language publication reads as follows: Ref. 2: K. D. Berlin, G. B. Butler, J. Org. Chem., 25, 2006, 1960; K. D. Berlin, G. B. Butler, J. Amer. Chem. Soc., 82, 2712, 1960

SUBMITTED: February 23, 1961

Card 3/3

POPOV, Ye.M.; KABACHNIK, M.I.; MAYANTS, L.S.

Vibration spectra of organophosphorus compounds. Usp.khim. 30
no.7:846-876 J1 '61. (MIRA 14:8)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Phosphorus organic compounds—Spectra)

KABACHNIK, M.I.; TSVETKOV, Ya.N.

Esters of cyclopentadienyl-, 1-indenyl-, and 9-fluorophenylphosphinous acids. Zhur.ob.khim. 30 no.10:3227-3233 0 '61. (MIRA 14:4)

1. Institut elementoorganicheskikh soedineniy AN SSSR.
(Phosphinous acid)

KARACHNIK, M.I.; MASTRYUKOVA, T.A.; BALUYEVA, G.A.; KUGUCHEVA, Ye.Ye.;
Shipov, A.E.; MELENT'YEVA, T.A.

Application of the Hammett equation to dithio phosphorus acids, Zhur.
ob. khim. 31 no.1:140-145 Ja '61. (MIRA 14:1)

1. Institut elementoorganicheskikh soedineniy Akademii nauk SSSR.
(Phosphorus acids)

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B118/B208

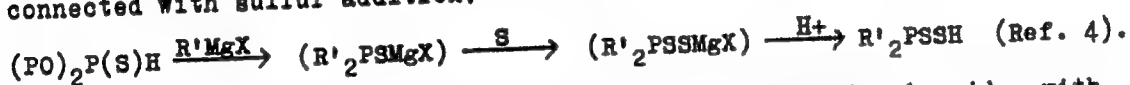
5.3630

AUTHORS: Mastryukova, T. A., Shipov, A. E., and Kabachnik, M. I.

TITLE: Method of synthesizing dialkyl dithiophosphinic acids

PERIODICAL: Zhurnal obshchey khimii, v. 31, no. 2, 1961, 507-512

TEXT: In view of Refs. 1-3, the authors synthesized dialkyl dithiophosphinic acids by reaction of dialkyl thiophosphites with alkyl magnesium halides, connected with sulfur addition:



The reactions of diethyl thiophosphite with butyl magnesium bromide, with sulfur addition, gave, however, tetrabutyl dithiodiphosphyl $(C_4H_9)_2P(S)P(S)(C_4H_9)_2$ which also results from the sodium salt of the phosphite. Potassium dibutyl thiophosphite reacts with the Grignard reagent to give a mixture of tetraalkyl dithiodiphosphyl and dialkyl dithiophosphinic acid in low yield. The authors devised a method of synthesizing dialkyl di-

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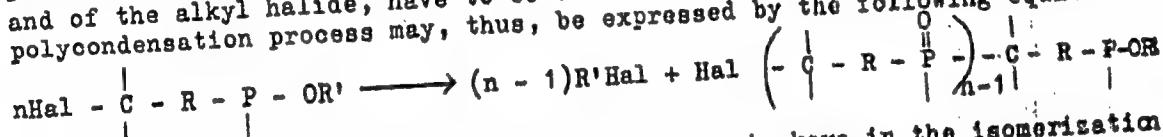
89523

S/079/61/031/002/019/019
B118/B208

15.8114

AUTHORS: Kabachnik, M. I. and Tsvetkov, Ye. N.
TITLE: Polycondensation according to A. Ye. Arbuzov's reaction
PERIODICAL: Zhurnal obshchey khimii, v. 31, no. 2, 1961, 684-685

TEXT: The regrouping of acid esters of trivalent phosphorus in compounds of pentavalent phosphorus by reaction with halogen derivatives according to Arbuzov (Ref. 1) can be used for the synthesis of organophosphorus polymers. For this purpose, the functions of the acid ester of trivalent phosphorus, and of the alkyl halide, have to be combined in the monomer molecule. The polycondensation process may, thus, be expressed by the following equation:



Such a reaction was first observed by P. A. Rossiyskaya in the isomerization of tri-β-chloro-ethyl phosphite (Ref. 2); but, at that time, the polymeric organophosphorus compounds were regarded as by-products, and their synthesis

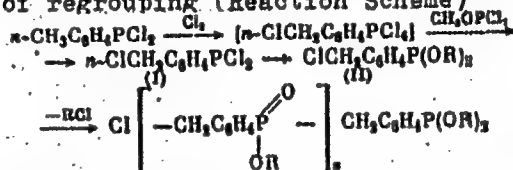
Card 1/3

89523

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B118/B20B

Polycondensation according ...

was, therefore, not studied. The authors of the present paper synthesized p-chloro-methyl-phenyl-dichloro phosphine (I), the initial product for synthesizing the esters of p-chloro-methyl-phenyl phosphinous acid (II), which form polymers when heated in vacuo between 90° and 120°C, according to Arbuzov's equation of regrouping (Reaction Scheme)



p-Tolyl-dichloro-phosphine in chloro benzene is converted to the corresponding tetrachloride by reaction with chlorine which gave, on further chlorination (in ultraviolet light at 80-90°C), and subsequent reduction with methyl dichloro phosphite (Ref. 3), p-chloro-methyl-phenyl-dichloro phosphine (I). This compound (I) was converted to the di-(β-chloro-ethyl) ester of p-chloro-methyl-phenyl phosphinous acid (II, R = CH₂CH₂Cl) by reaction with ethylene oxide, when heated (90-120°C) for 20 hr in vacuo, the resultant

Card 2/3

GODOVIKOV, N.N.; KABACHNIK, M.I.

Substituting sulfur for oxygen in organophosphorus compounds. Zhur.
ob.khim. 31 no.5:1628-1631 My '61. (MIRA 14:5)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Phosphorus organic compounds)

KABACHNIK, M.I.; IOFFE, S.T.; POPOV, Ye.M.; VATSURO, K.V.

Trans-enolization. Part 1: Effect of solvents on the enolization
of trans-fixed keto enols. Zhur.ob.khim. 31 no.7:2122-2131 JI '61.
(MIRA 14:7)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Ketone) (Isomerism)

KABACHNIK, M.I.; IOFFE, S.T.; POPOV, Ye.M.; VATSURO, K.V.

Transenolization. Part 2: Effect of solvents on the trans-enolization of α -alkylacetoacetic esters. Zhur.ob.khim. 31 no.8:2682-2692 Ag '61. (MIRA 14:8)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Acetoacetic acid) (Isomerization)

NENITSESKU, Kostina [Nenitescu, Costin D.], prof. akademik;
HYRLEDYANU, L. [Birladeanu, L., translator]; KABACHNIK, M.I.,
akademik, red.; GAZIYEVA, G.B., red.; IUTAPENKOVA, Ye.S.,
tekh. red.

[Organic chemistry] Organicheskaia khimiia. Moskva, Izd-vo
inostr. lit-ry. Vol.1. 1962. 863 p. Translated from the Rumanian.

(MIRA 15:10)

1. Prezident otdela khimicheskikh nauk Akademii Rumynskoy narodnoy
respubliki i Bukharestskiy politekhnicheskii institut (for
Nenitsecu). (Chemistry, Organic)

YABACHNIK, M.I.

Academy of Sciences of the U.S.S.R.

Chemical Division

THE CHEMISTRY AND PHYSICS OF THE CARBONIZING COMPOUNDS

[Kislovskaya 1971, under Pseudonym: Kiselevskaya, L. I.]

Transactions of the USSR Conference

November 10 - December 1, 1969

Academy of Sciences of the U.S.S.R. Publishing House

Moscow, 1970

[This book is a collection of papers presented at the 1969 Conference on the Chemistry and Physics of the Carbonizing Compounds, held in Moscow, U.S.S.R. The Union's leading scientists in the field of the chemistry and physics of carbonizing compounds.]

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KAPACHNIK, M. I.

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PHASE I BOOK EXPLOITATION

SOV/6034

Konferentsiya po khimii i primeneniyu fosfororganicheskikh soedineniy. 2d, Kazan', 1959.

Khimiya i primeniye fosfororganicheskikh soedineniy; trudy (Chemistry and Use of Organophosphorus Compounds; Conference Transactions) Moscow, Izd-vo AN SSSR, 1962. 630 p. Errata slip inserted. 2800 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Kazansky filial.

Resp. Ed.: A. Ye. Arbuzov, Academician; Ed. of Publishing House: L. S. Povarov; Tech. Ed.: S. G. Tikhomirova.

PURPOSE: This collection of conference transactions is intended for chemists, process engineers, physiologists, pharmacists, physicians, veterinarians, and agricultural scientists.

COVERAGE: The transactions include the full texts of most of the scientific papers presented at the Second Conference on the Chemistry and Use of

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Chemistry and the Use of Organophosphorus (Cont.)

SOV/6034

Organophosphorus Compounds held at Kazan' from 2 Nov through 1 Dec 1959. .
The material is divided into three sections: Chemistry, containing 67 articles; Physiological Activity of Organophosphorus Compounds, containing 26 articles; and Plant Protection, containing 12 articles. The reports reflect the strong interest of Soviet scientists in the chemistry and application of organophosphorus compounds. References accompany individual reports. Short summaries of some of the listed reports have been made and are given below.

TABLE OF CONTENTS:[Abridged]:

Introduction (Academician A. Ye. Arbuzov)

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TRANSACTIONS OF THE CHEMISTRY SECTION

Gefer, Ye. L. [NII plastmass (Scientific Research Institute of Plastics, Moscow). Some Prospects for the Industrial Use of Organophosphorus Compounds

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Chemistry and the Use of Organophosphorus (Cont.)

SOV/6034

Andreyeva, M. A., I. A. Gribova, M. I. Kabachnik, G. S. Kolesnikov, V. V. Korshak, T. Ya. Medved', Yu. M. Polikarpov, Ye. F. Rodionova, and L. S. Fedorova [Institute of Organoelemental Compounds]. Some Methods of Synthesis of New Organophosphorus Monomers and Polymers 263

This study attempts to develop new methods of synthesis of organophosphorus monomers and polymers for obtaining high-molecular fireproof materials. The authors synthesized vinyl compounds of pentavalent phosphorus and studied their properties, as well as those of the polymers obtained.

Moshkin, P. A., Ye. L. Gefter, and I. K. Rubtsova [Scientific Research Institute of Plastics]. Study of the Synthesis and Uses of Some Organophosphorus Compounds in the Plastics Industry 279

Industrial methods for the preparation of esters of phosphoric acid and for testing qualities of these acids as plasticizers have been developed, along with methods for obtaining phosphorus-containing monomers for use in polymerization, copolymerization, and polycondensation reactions. Polyesters based on dichlorides of

Card 6/14

KABACHNIK, M.I., BALUYEVA, G.A.

Basicity of phosphines and the Hammett equation. Izv. AN
SSSR. Otd. khim. nauk no. 3: 536-537 Mr '62. (MIRA 15:3)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Phosphine) (Hammett equation)

S/062/62/000/009/006/009
B119/B186

AUTHORS: Kabachnik, M. I., Medved', T. Ya., Polikarpov, Yu. M., and
Yudina, K. S.

TITLE: Reactions of vinyl diphenyl phosphine oxide

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh
nauk, no. 9, 1962, 1584 - 1589

TEXT: Thirteen compounds were obtained from vinyl diphenyl phosphine
oxide by reactions according to the following scheme:

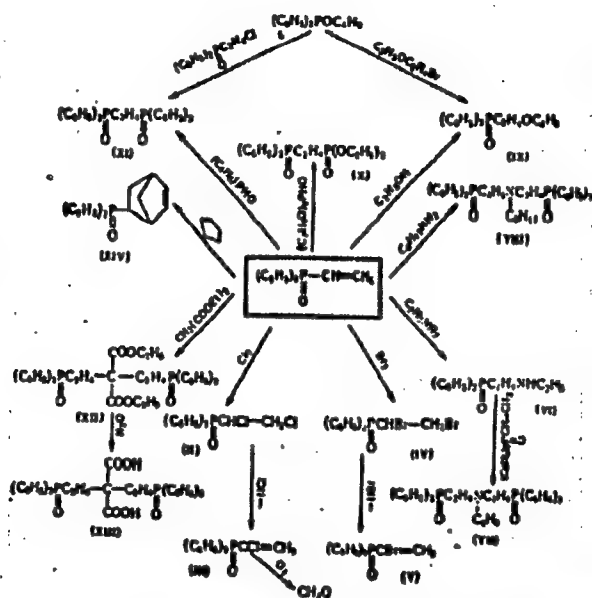
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Reactions of vinyl diphenyl ...

S/062/62/000/009/006/009
B119/B186



Card 2/3

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S/204/62/002/004/019/019
E075/E436

11.9200
5.3630
AUTHORS:

Kabachnik, M.I., Gefter, Ye.L., Moshkin, P.A.,
Medved', T.Ya.

TITLE: Phosphororganic monomers. Review paper

PERIODICAL: Neftekhimiya, v.2, no.4, 1962, 639-651

TEXT: The area of phosphororganic monomers reviewed is that of β -chloroethyl and vinyl derivatives of phosphorous which is thought to have a large potential for the production of high melting, non-inflammable polymers. An important monomer in this area is dichloroanhydride of vinylphosphorous acid obtainable in four steps from ethylene oxide and PCl_3 . The first reaction $3\text{C}_2\text{H}_4\text{O} + \text{PCl}_3 \rightarrow \text{P}(\text{OCH}_2\text{-CH}_2\text{-Cl})_3$ (I) gives a product, which is of value in itself (fuel additive, plasticizer) and which can be isomerized to give $\text{ClCH}_2\text{CH}_2\text{P}(\text{OCH}_2\text{CH}_2\text{Cl})_2$ (II) as discovered by

M.I.Kabachnik. The isomerization of (I) is more or less difficult depending on the groups attached to P. For example, it proceeds easily at room temperature for $(\text{R}_2\text{N})_2\text{POC}_2\text{H}_4\text{Cl}$, but long heating at 160 to 170°C is necessary for the isomerization
Card 1/3

Phosphororganic monomers

S/204/62/002/004/019/019
E075/E436

until recently the only available method for their preparation. The phosphines polymerize easily by ionic or radical mechanism. At the present time the polymerization of vinyl-diethyl and vinyl-diphenylphosphines is being investigated under the action of X-ray and chemical initiators. In general; the vinyl-phosphorous compounds can polymerize, copolymerize and, depending on their specific structure, can condense and form polyesters. Thus di β, β' -chloroethyl ester of vinylphosphorous acid undergoes polycondensation at 210 to 240°C and polymerizes in the presence of initiators forming a three dimensional polymer. There are 44 references. X

ASSOCIATION: Institut elementoorganicheskikh soedineniy AN SSSR
(Institute of Elemental-organic Compounds AS USSR)

Card 3/3

KABACHNIK, M.I., akademik

Problems in tautomerism. Zhur. VKHO 7 no.3:263-276 '62.
(MIRA 15:6)
(Tautomerism)

S/074/62/031/003/001/002
B117/B101

AUTHORS: Gefter, Ye. L., and Kabachnik, M. I.

TITLE: Organophosphorus compounds derived from cyclic oxides

PERIODICAL: Uspekhi khimii, v. 31, no. 3, 1962, 285-321

TEXT: This is a survey of the progress achieved in the chemistry of organophosphorus compounds. It deals with research work in which reactions of cyclic oxides with some phosphoric compounds, properties, conversions, and possibilities of application of resulting reaction products were studied. Summarizing, it is stated that the addition of phosphoric compounds to α -oxides provides a simple, easy and cheap method for the synthesis of various organophosphorus compounds. Thus compounds containing β -alkyl halide- and hydroxyl groups, α - and β -unsaturated radicals at the phosphorus atom, and active epoxy- and ethylenimine rings, can be prepared quite easily and with high yields. A large number of such organophosphorus compounds are being used in national economy. Probably, their field of application will further increase since there are still wide possibilities of synthesizing new compounds. Mention is made of:

Card 1/2

KABACHNIK, M.I.; MASTRYUKOVA, T.A.; MELENT'YEVA, T.A.

Conjugation in the systems having a tetrahedral atom. Diarylphosphinic
acids. Zhur. ob. khim. 32 no.1:267-272 Ja '62. (MIRA 15:2)
(Phosphinic acid)

KABACHNIK, M.I.; GILYAROV, V.A.; POPOV, Ye.M.

Tautomerism of phosphamidines. Zhur.ob.khim. 32 no.5:1598-1604,
My '62. (MIRA 15:5)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Phosphorus acids) (Amidines) (Tautomerism)

S/079/62/032/010/005/008
D204/D307

AUTHORS: Kabachnik, M.I., Tsvetkov, Ye.N., and Chang, Jung-Yü
TITLE: Reactivity of the vinyl group and the direction of addition in the reactions of secondary amines with the vinyl compounds of tri- and pentavalent phosphorus
PERIODICAL: Zhurnal obshchey khimii, v. 32, no. 10, 1962; 3340 - 3350

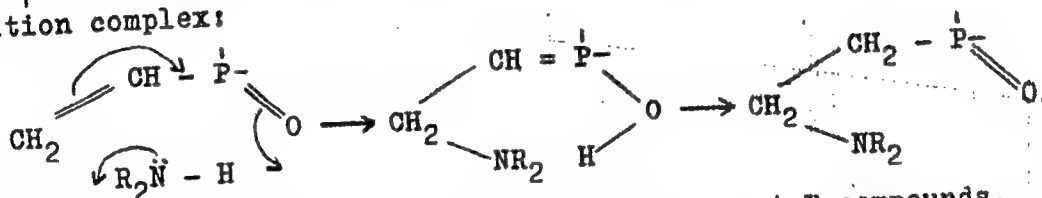
TEXT: The addition reactions of piperidine and diethylamine to $\text{CH}_2 = \text{CH} - \text{P}(\text{C}_4\text{H}_9)_2$ (I), $\text{CH}_2 = \text{CH} - \text{P}(\text{OC}_4\text{H}_9)_2$ (II), $\text{CH}_2 = \text{CH} - \text{P}(\text{O}) \cdot \text{H} \cdot \text{OC}_4\text{H}_9$ (III), $\text{CH}_2 = \text{CH} - \text{P}(\text{O})(\text{C}_4\text{H}_9)_2$ (IV) and $\text{CH}_2 = \text{CH} - \text{P}(\text{O}) \cdot \text{CH}_3 \cdot \text{C}_4\text{H}_9$ (VI) were studied in an effort to clarify the influence of the P-containing groups on the double bond of the vinyl group. The readiness with which the vinyl compounds reacted with the amines was in the order $\text{III} > \text{VI} > \text{IV} > \text{II} > \text{I}$; thus III reacted exothermically when mixed with pyridine in the presence of hydroquinone, whilst I required heating to $145 - 160^\circ\text{C}$ in a sealed tube, for 19 hrs., in

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D204/D307

Reactivity of the vinyl group and ...

the presence of a catalyst. It was shown that the addition followed Markovnikov's rule in all cases, i.e. the N-atom of piperidine bonded on to the β -carbon of the vinyl group. In pentavalent P compounds the observed direction of addition is ascribed to $R_2NH + CH_2=CH-P(=O)R_2 \rightarrow R_2NCH_2CH_2-P(=O)R_2$, or the formation of a cyclic transition complex:



For the β -addition of secondary amines to trivalent P compounds, the following possibilities are presented: (a) polarization of the $C=C$ bond by a weak inductive effect directed towards the phosphorus: $CH_2=CH \rightarrow \overset{+}{P} <$, (b) in the case of I, which only reacts in the presence of piperidine hydrochloride, the formation of a salt,

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S/079/62/032/010/006/008
D204/D307

AUTHORS: Kabachnik, M.I., Chang, Jung-Yü, and Tsvetkov, Ye.N.

TITLE: The esters of unsaturated phosphinous acids

PERIODICAL: Zhurnal obshchey khimii, v. 32, no. 10, 1962,
3351 - 3360

TEXT: The above class of compounds was studied in view of its potential applications to synthesis. Esters of the vinyl-, ethynyl-, allyl-, p-styryl- and of vinyl phenyl phosphinous acids $RP(OR')_2$, were prepared by the reaction of Grignard reagents $RMgX$ with $ClP(OR')_2$, at $-60^\circ C$, in the presence of pyridine. The butyl esters of vinyl, -methyl vinyl, - ethyl vinyl, - butyl vinyl, - allyl vinyl, - and diallyl phosphinic acids were prepared by the Arbuzov rearrangement of the corresponding butyl phosphinites, using high boiling alkyl halides. The reactions were carried out in toluene, at atmospheric pressure. Vinyl, allyl, and vinyl phenyl - phosphinous esters were readily oxidized, with activated MnO_2 , to $CH_2 = CHP(O)$

Card 1/2

parated by the hydrolysis of its ester, owing to polymerization.

$\text{CH}_2 = \text{CHP}(\text{OBu})_2$ reacted with Cl_2 to give $\text{CH}_2 = \text{CHP} \begin{array}{c} \text{O} \\ \diagup \quad \diagdown \\ \text{---} \quad \text{---} \\ \diagdown \quad \diagup \\ \text{Cl} \end{array} \text{OBu}$ and ente-

red into a diene synthesis. ^{CI}
 APPROVED FOR RELEASE: 08/10/2001 th CIA-RDP86-00513R000600920014-1
 The corresponding monobutyl ester polymerized readily on heating
 (100°C, 5 hrs.) and in the presence of initiators.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR (Institute of Elemental Organic Compounds of the Academy of Sciences, USSR)

SUBMITTED: July 28, 1961

Card 2/2

MASTRYUKOVA, T.A.; SHIPOV, A.E.; KABACHNIK, M.I.

Dimethylphosphinothioic and dimethylphosphinodithioic
acids and their derivatives. Zhur.ob.khim. 32 no.11:3579-3582
N '62. (MIRA 15:11)
(Phosphinothioic acid) (Phosphinodithioic acid)

KABACHNIK, M.I., akademik; TSVETKOV, Ye.N.

"Pseudoallyl" rearrangements of tri-(chloromethyl)-phosphine.
Dokl. AN SSSR 143 no.3:592-595 Mr '62. (MIRA 15:3)

1. Institut elementoorganicheskikh soedineniy AN SSSR.
(Phosphine)(Radicals(Chemistry))

KABACHNIK, M. I.; GEFTER, Ye. L.; MOSHKIN, P. A.; MEDVED', T. Ya.

Organophosphorus monomers. Neftekhimia 2 no.4:639-651 J1-Ag '62.
(MIRA 15:10)

1. Institut elementoorganicheskikh sovedineniy AN SSSR.

(Phosphorus organic compounds)

IOFFE, S.T.; POPOV, Ye.M.; VATSURO, K.V.; TULIKOVA, Ye.K.; KABACHNIK, M.I.,
akademik

Keto cis-trans-enol equilibrium of 3-alkylacetylacetones. Dokl.
AN SSSR 144 no.4:802-805 Je '62. (MIRA 15:5)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Acetone) (Isomerization)

KOLESNIKOV, G.S.; RODIONOVA, Ye.F.; FEDOROVA, L.S.; MEDVED', T.Ya.;
KABACHNIK, M.I.

Carbochain polymers and copolymers. Part 41: Synthesis,
polymerization, and copolymerization of vinylphosphinic
amides. Vysokom.sped. 4 no.9:1385-1389 S '62. (MIRA 15:11)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Phosphinic amide)
(Polymerization)

KABACHNIK, M.I.; TSVETKOV, Ye.N.; CHZHAN ZHUN-YU'Y [Chang Jung-yü]

Orientation of the addition and the reactivity of a vinyl group in the reactions of secondary amines with vinyl compounds of tri- and pentavalent phosphorus. Zhur.ob.khim. 32 no.10:3340-3350 0 '62. (MIRA 15:11)

(Phosphorus organic compounds)

(Amines)

(Vinyl compounds)

KABACHNIK, M.I., GEFTER, YE.L., MOSHKIN, P.A.

Phosphor organic monomers.

Report submitted for the 12th Conference on high molecular weight, compounds devoted to monomers, Baku, 3-7 April 62

MEDVED', T.YA., KARACHNIK, M.I., MOSHKIN, P.A., VARSHAVSKIY, S.I.
KOFMAN, L.P., GEFTER, YE.L., TKACHENKO, G.V., DANILEVICH, A.A.

Industrial method of synthesis of di-B,B chlor-ethyl of vinyl-
phosphinic acid from ethylene oxide and phosphorus trichloride.

Report submitted for the 12th Conference on high molecular weight compounds
devoted to monomers, Baku, 3-7 April 62

KABACHNIK, M.I.; MEDVED', T.Ya.; POLIKARPOV, Yu.M.; YUDINA, K.S.

Reactions of vinyl diphenyl phosphine oxide. Izv. AN SSSR. Otd. khim.
nauk no. 9: 1584-1589 S '62. (MIRA 15:10)

1. Institut elementoorganicheskikh soedineniy AN SSSR.
(Phosphine oxide)

KABACHNIK, M.I.; GILYAROV, V.A.; CHZHAN CHZHEN-DE[Chand Chōng-tieh]; MATROSOV, Ye.I.

Problem of tautomerism of N-acylamidophosphates and N-acylamidophosphinates.
Izv.AN SSSR.Otd.khim.nauk no.9:1589-1599 S '62. (MIRA 15:10)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Phosphoramidic acid) (Phosphinamidic acid) (Tautomerism)

KABACHNIK, M.I.; MEDVED', T.Ya.

Synthesis of methylenediphosphine oxide. Izv. AN SSSR. Otd.khim.
nauk no.11s2103-2104 N '62. (MIRA 15:12)

1. Institut elementoorganicheskikh soyedineniya AN SSSR.
(Diphosphine)

SHUSTOROVICH, Yevgeniy Meyerovich; KABACHNIK, M.I., akademik,
otv. red.; BLYUMENFEL'D, L.A., doktor khim. nauk, otv.
red.; KORDYUKOVA, S.A., red.; TARASENKO, V.M., red.izd-va;
SUSHKOVA, L.A., tekhn. red.

[Nature of chemical bonds] Priroda khimicheskoi svyazi.
Moskva, Izd-vo AN SSSR, 1963. 134 p. (MIRA 16:12)
(Chemical bonds)

KOLESNIKOV, G.S.; RODIONOVA, Ye.F.; FEDOROVA, L.S.; MEDVED', T.Ya.;
KABACHNIK, M.I.

Carbochain polymers and copolymers. Part 43: Synthesis,
polymerization, and copolymerization of aromatic esters of
vinylphosphinic and α -chlorovinylphosphinic acids. Vysokom.
soed. 5 no.1:32-38 Ja '63. (MIRA 16:1)

1. Institut elementoorganicheskikh soedineniy AN SSSR.
(Phosphinic acid) (Polymerization)

KABACHNIK, M.I.; IOFFE, S.T.

Effect of steric factors on keto-cis-trans-enol equilibrium
of α -cycloalkylacetoacetic esters. Izv. AN SSSR. Otd. khim. nauk
no. 2: 339-343 P '63. (MIRA 16:4)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Acetoacetic acid) (Tautomerism)

MEDVED', T.Ya.; FRUNZE, T.M.; KHU CHIN-MEY; KURASHEV, V.V.; KORSHAK, V.V.;
KABACHNIK, M.I.

Organophosphorus polyamides based on methyldi-(*p*-aminophenyl)phosphine oxide. Vysokom.socd. 5 no.9:1309-1314 S '63. (MIRA 17:1)

1. Institut elementoorganicheskikh soedineniy AN SSSR.

KABACHNIK, M.I.; TSVETKOV, Ye.N.

Lower dialkyl phosphinous acids (oxides of secondary phosphines)
and some of their properties. Izv. AN SSSR. Ser.khim. no.7:1227-
1232 J1 '63. (MIRA 16:9)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Phosphinous acid)

MASTRYUKOVA, T.A.; SAKHAROVA, T.B.; KABACHNIK, M.I.

Thin-layer chromatography of organothiophosphorus compounds.
Izv. AN SSSR. Ser. khim. no.12:2211-2213 D '63.

(MIRA 17:1)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

KABACHNIK, M.I.

KABACHNIK, M.I. [Kabachnik, M.I.]; CHEFTER, E.L.; MOSKIN, P.A. [Moshkin,
...]; MEDVED, T.I. [Medved', T.Ya.]

Organophosphoric monomers. Analele chimie 18 no.3:62-76 J1-S '63.

KABACHNIK, M., akademik

Chemistry of life and chemistry of death. Tekh.mol. 31 no.4:2
'63. (MIRA 16:6)

(Phosphorus organic compounds)

ACCESSION NR: AT4033994

S/0000/63/000/000/0117/0122

AUTHOR: Korshak, V.V.; Gribova, I.A.; Andreyeva, M.A.; Kabachnik, M.I.;
Medved', T. Ya.

TITLE: Polymers containing phosphorus. XXIX. Heterocyclic polyesters of vinylphosphinic acid and some glycols

SOURCE: Geterotsepny*ye vy*sokomolekulyarny*ye soyedineniya (Heterochain macromolecular compounds); sbornik statey. Moscow, Izd-vo "Nauka," 1963, 117-122

TOPIC TAGS: vinylphosphinic acid, ethylene glycol, propylene glycol, diethylene glycol, trimethylene glycol, butylene glycol, polymer, cyclic polyester, polymerization, polymerization catalyst, metallic sodium, linear polymerization, radical polymerization, benzoyl peroxide, tert.-butyl peroxide, tert.-butyl hydroperoxide

ABSTRACT: The authors synthesized the cyclic esters of vinylphosphinic acid (I) and ethylene glycol (II), 1,2-propylene glycol (III), trimethylene glycol (IV), 1,4-butyleneglycol (V) or diethylene glycol (VI) and determined some of their physicochemical properties (see Table 1 in the Enclosure). These esters were then polymerized linearly in the presence of water (3% by weight, 140C, from 16 hours for III to 83 hours for VI).

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ACCESSION NR: AT4033994

Yields ranged from 23.2% for VI to 88.6% for II, indicating that penta-cyclic esters are the most suitable. Structural modification of the synthesized polyesters was then attempted by the use of radical polymerization catalysts (benzoyl peroxide, tert.-butyl peroxide, tert.-butyl hydroperoxide and metallic Na; 0.5 to 3.0% by weight, 55-90C, 10-51 hours). The polymers obtained were solids or similar to factice rubber with softening temperatures of 180-250C. "G. M. Popova and G. F. Dmitriyeva took part in the experimental part of the work." Orig. art. has: 2 graphs, 4 tables and 1 chemical equation.

ASSOCIATION: Institut elementoorganicheskikh sovedineniy AN SSSR (Institute of Metalloorganic Compounds AN SSSR)

SUBMITTED: 31Jul62

DATE ACQ: 30Apr64

ENCL: 01

SUB CODE: OC

NO REF SOV: 005

OTHER: 000

Card 2/3

ACCESSION NR: AT4033994 - Cyclic esters of vinylphosphinic acid ENCLOSURE: 01

TABLE 1

Chemical formula	B.P., °C/mm	20 n _D	20 d ₄	MR _D		C, %		H, %		P, %		Yield %
				Found	Calcu- lated	Found	Calcu- lated	Found	Calcu- lated	Found	Calcu- lated	
I. $\text{CH}_2=\text{CH}-\text{P}(=\text{O})(\text{OCH}_3)_2$	127/4	1.4701	1.3068	28.63	28.67	35.5 35.5	35.6	5.6 5.7	5.3	20.6 20.6	23.1	65
II. $\text{CH}_2=\text{CH}-\text{P}(=\text{O})(\text{OCH}_2\text{CH}_3)_2$	113-114/3	1.4598	1.2071	33.59	33.49	40.6 40.7	40.6	6.2 6.2	6.2	20.4 20.5	20.9	89
III. $\text{CH}_2=\text{CH}-\text{P}(=\text{O})(\text{OCH}_2\text{CH}_2\text{CH}_3)_2$	129-130/2	1.4775	1.2570	33.32	33.49	40.6 40.5	40.6	6.4 6.3	6.1	20.4 20.4	20.9	53
IV. $\text{CH}_2=\text{CH}-\text{P}(=\text{O})(\text{OCH}_2\text{CH}_2\text{CH}_2\text{CH}_3)_2$	120/3	1.4792	1.2044	35.19	35.11	44.6 44.6	44.6	7.0 7.0	6.9			47
V. $\text{CH}_2=\text{CH}-\text{P}(=\text{O})(\text{OCH}_2\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_3)_2$	T. mm. 112-116/3 T. mm. 57-58°	—	—	—	—	40.4 40.4	40.4	6.2 6.2	6.2	17.5 17.4	17.4	10

Card 3/3

KABACHNIK, M. I.; MASTRYUKOVA, T. A.; SHIPOV, A. E.

Reaction of phosphite amides and phosphinite amides with acid
anhydrides. Zhur. ob. khim. 33 no.1:320-321 '63.

(MIRA 16:1)

(Phosphinous amide) (Anhydrides)

KABACHNIK, M.I.; MASTRYUKOVA, T.A.; MELENT'YEVA, T.A.

Conjugation phenomenon in the systems with a tetrahedric
atom. Part 2: Vinylphosphinic acids. Zhur.ob.khim. 33 no.2:
382-388 F '63. (MIRA 16:2)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Phosphinic acid) (Conjugation (Chemistry)) (Vinyl compounds)

KABACHNIK, M.I.; GODOVIKOV, N.N.; GODYNA, Ye.I.

Synthesis of some physiologically active organophosphorus compounds.
Zhur.ob.khim. 33 no.4:1335-1342 Ap '63. (MIRA 16:5)
(Phosphorus organic compounds--Physiological effect)

KABACHNIK, M.I.; GODOVIKOV, N.N.

Synthesis of some physiologically active organophosphorus compounds.
Part 2: Preparation of O-ethyl-S-[β -alkylmercaptoethyl]
methylthiophosphinate, O-ethyl-S-[β -phenylmercaptoethyl]
methylthiophosphinate and their methylsulfomethylates. Zhur.ob.khim.
33 no.6:1941-1945 Ja '63. (MIRA 16:7)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Phosphorus organic compounds)

MASTRYUKOVA, T.A.; SHEYNKER, Yu.N.; KUZNETSOVA I.K.; PERESLENI, Ye.M.;
SAKHAROVA, T.B.; KABACHNIK, M.I.

Hammett equation in the theory of tautomeric equilibrium. Part
2: Tautomerism of α -arylsulfaminopyridines. Potentiometric study.
~~Zhuravskiy~~ ~~Zhuravskiy~~. 33 no.10:3328-3335 0 '63.

Hammett equation in the theory of tautomeric equilibrium.
Part 2: Tautomerism of α -arylsulfaminopyridines. Spectro-
photometric study. 3336-3342 (MIRA 16:11)

1. Institut elementoorganicheskikh soedineniy AN SSSR i In-
stitut khimii prirodnikh soedineniy AN SSSR.

GODOVIKOV, N.N.; GODYNA, Ye.I.; KABACHNIK, M.I., akademik; MIKHEL'SON, M.Ye.;
ROZENGART, Ye.V.; YAKOVLEV, V.A.

Anticholinesterase properties of some O-ethyl-S-alkylmethyl
thiophosphinates. Dokl. AN SSSR 151 no.5:1104-1107 Ag '63.
(MIRA 16:9)

1. Institut elementoorganicheskikh soyedineniy AN SSSR i Institut
evolyutsionnoy fiziologii im. I.M.Sechenova AN SSSR.
(Cholinesterases) (Phosphinic acid)

ROMANOVSKIY, Yu.M.; MASTRYUKOVA, T.A.; BODROV, V.P.; POPOV, Ye.M.;
KABACHNIK, M.I.

Use of high-speed computers in the analysis of mixtures of
organophosphorus compounds by their infrared spectra. Izv. AN
SSSR. Ser.khim. no.3:569-572 Mr '64. (MIRA 17:4)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova,
Institut elementoorganicheskikh soyedineniy AN SSSR i Institut
organicheskoy khimii im. N.D.Zelinskogo AN SSSR.

KABACHNIK, M.I., akademik

Phosphorus organic physiologically active substances; mechanism
of action and rational ways of search. Vest. AN SSSR 34 no.10:
60-68 0 '64.
(MIRA 17:11)

1-22658-65

EPF(C)/EPR/EPA(s)-2/EPD(j)/ENT(m)/T PC-4/PR-4/PS-4/PT-10 JAJ/RM/WM/MLX

ACCESSION NR: AT5002111

S/0000/64/000/000/0063/0068

AUTHOR: Korshak, V.V.; Frunze, T.M.; Kurashov, V.V.; Medved', T.Ya.;
Polikarpov, Yu. M.; Hu, Ch'ing-mei; Kabachnik, M.I.

TITLE: Synthesis of certain phosphorus-containing monomers

SOURCE: AN SSSR. Institut neftekhimicheskogo sinteza, Sintez i svoystva monomerov
(The synthesis and properties of monomers). Moscow, Izd-vo Nauka, 1964, 63-66

TOPIC TAGS: polyamide, aromatic dicarboxylic acid, aromatic diamine, organophosphorus
compound, polycondensation, aliphatic diamine, phosphine derivative

ABSTRACT: The authors synthesized a series of phosphorus-containing bifunctional monomers of the type of aromatic dicarboxylic acids or amines, e.g. the oxides of phenyl- and methyl-di-(m-carboxyphenyl)-phosphine and of phenyl- and methyl-di-(m-aminophenyl)-phosphine. The monomers were then utilized for the synthesis of polyamides by the methods of equilibrium and inter-phase polycondensation. A large number of polyamides were obtained from the phosphorus-containing dicarboxylic acids with aliphatic and aromatic diamines as well as from the phosphorus-containing diamines with certain dicarboxylic acids. All the polyamides were capable of fiber- and film-formation. In their mechanical properties, the polyamides were comparable to polymers of the type of polyhexamethylenediamine

Cord 1/2

L 22658-65
ACCESSION NR: AT5002111

or polyhexamethylsebacamide. The polyamides containing phosphorus showed good flame resistance. In addition, they can be used for the same applications as ordinary polyamides. Orig. art. has: 2 tables and 5 formulas.

ASSOCIATION: None

SUBMITTED: 30Jul64

NO REF SOV: 008

ENCL: 00

SUB CODE: 00, 60

OTHER: 008

Card 2/2

TSVETKOV, Ye.N.; KABACHNIK, M.I.

Methods of synthesis and analysis of dialkyl phosphites and
their analogs. Reakts.i.metod.iscl.org.sced. 13:267-427 '64.
(MIRA 17:10)

MASTRYUKOVA, T.A.; SAKHAROVA, T.B.; KABACHNIK, M.I.

Reactivity of thio acid salts of phosphorus. Part 4: Reaction of ammonium diethyl phosphate with dichloroethene. Zhur.ob,khim. 34 no.1: 94-98 Ja '64. (MIRA 17:3)

KABACHNIK, M.I.; VOYEVODSKIY, V.V.; MASTRYUKOVA, T.A.; SOLODNIKOV, S.P.;
MELENT'YEVA, T.A.

Conjugation in the systems involving a tetrahedral atom. Electron
paramagnetic resonance spectra of some organophosphorus compounds.
Zhur. ob. khim. 34 no.10:3234-3240 O '64.

(MIRA 17:11)

1. Institut elementoorganicheskikh soyedineniy AN SSSR i Institut
khimicheskoy fiziki AN SSSR.

BRESTKIN, A.P.; GODOVIKOV, N.N.; GODYNA, Ye.I.; KABACHNIK, M.I., akademik;
MIKHEL'SON, M.Ya.; ROZENGART, Ye.V.; YAKOVLEV, V.A.

Anticholinesterase properties of o-ethyl-S-alkylmethylthiophosphates. Inhibition kinetics and structure of the active surface of cholinesterases. Dokl. AN SSSR 158 no.4:880-883 O '64.

(MIRA 17:11)

1. Institut evolyutsionnoy fiziologii im. I.M. Sechenova AN SSSR
i Institut elementoorganicheskikh soyedineniy AN SSSR.

ARKHIPOVA, O.G.; KOCHETKOVA, T.A.; RUDOMINO, M.V.; MEDVED', T.Ya.; KABACHNIK,
M.I., akademik

Effect of aminoalkylphosphinic acids on experimental beryllium intoxication. Dokl. AN SSSR 158 no.5:1235-1237 O '64.

(MIRA 17:10)

1. Institut gigiyeny truda i professional'nykh zabolevaniy AMN SSSR i
Institut elementoorganicheskikh soyedineniy AN SSSR.

OREKHOV, Aleksandr Pavlovich (1881-1939), akademik; KABACHNIK,
M.I., akademik, otv. red.; RUDENKO, V.A., red.

[Intramolecular rearrangements; studies in the field of
theoretical organic chemistry] Vnutrimolekuliarnye pe-
regruppirovki; issledovaniia v oblasti teoreticheskoi or-
ganicheskoi khimii. Moskva, Nauka, 1965. 310 p.
(MIRA 18:9)

GREKHOV, Aleksandr Pavlovich, akademik, [deceased]; IL'JACHNIK,
M.I., akademik, otv. red.; KOSOVLOVA, P.P., prof., red.;
GAL'PERN, G.D., prof., red.; SIMUKOVA, N.A., red.

[Chemistry of the alkaloids of plants of the U.S.S.R.]
Khimiia alkaloidov rastenii SSSR. Moskva, Nauka, 1965.
391 p. (MIRA 18:11)

AUTHORS: Kabachnik, M. I.; Gilyarov, V. A.; Chang, Chang-te

TITLE: Trialkyl-n-acylimidophosphates as conjugate systems

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 4. 1965, 664-669

TOPIC TAGS: conjugate system, phosphate, alkylation

ABSTRACT: Trialkyl-n-acylimidophosphates as conjugate systems were investigated, and their reactions with nucleophiles and electrophiles were studied according to the mechanism of the reaction.

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L 54446-65

ACCESSION NR: AP5012451

triethyl-n-dichloroacetylimidophosphate (and methyl iodide), no reaction was observed. The lower reactivity of the acetylimidophosphate may be due to

$O=C-N=P-O-C$ • Orig. art. has: 1 table and 10 formulas.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy, Akademii nauk SSSR
(Institute of Hetero-Organic Compounds, Academy of Sciences, USSR)

SUB JUDIC: 21. 10

SECRET 001

Card 2/2

L 86707-66 ENT(m)/TSP(j) RW/CD-2

ACC NR: AP6012080

SOURCE CODE: UR/0062/65/000/005/0895/0898

AUTHOR: Senyavina, L. B.; Sheynker, Yu. N.; Zheltova, V. N.; Dombrovskiy, A. V.;
Shevchuk, M. I.; Kabachnik, M. I.; Mastryukova, T. A.; Melent'yeva, T. A.

ORG: Institute of the Chemistry of Natural Compounds, AN SSSR (Institut khimii prirodnikh soyedineniy AN SSSR)

TITLE: Infrared spectra of aroilmethylenetriphenylphosphoranes and their salts

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 5, 1965, 895-898

TOPIC TAGS: IR spectrum, organic salt, organic phosphorous compound, electron donor, cyclic group

ABSTRACT: The integral intensities of the carbonyl absorption in the infrared spectra of aroilmethylenetriphenylphosphoranes (in which the carbonyl group is bonded to a phenyl ring) and their salts were measured. The data were considered from the standpoint of electron donor and electron acceptor properties of the phosphorus atom and the aromatic rings of the aroilm group, as well as the influence of substituents in the aromatic ring on the absorption intensity. The addition of an aromatic group to the carbonyl in phosphoranes led to a decrease in the frequency and intensity of the valence vibration of the carbonyl group in comparison with the corresponding aliphatic derivatives, evidently as a result of the functioning of the aromatic ring as an electron acceptor, competing with the carbonyl group for electrons from the strong electron-donor phosphorus atom. The frequency and in-

UDC: 543.422

Cord: 1/2

ACC NR: AP6012080

tensity of the C=O vibration are also determined by the configuration of the molecule, determined in turn by the size of the substituent at the carbonyl group. In phosphorane salts, the tetravalent positive phosphorus plays the role of an electron acceptor, resulting in a sharp drop in the intensity of the C=O band in comparison with phosphoranes. The absorption bands in the region of $1317-1390\text{ cm}^{-1}$ for arylmethylenetriphenylphosphoranes and $1389-1412\text{ cm}^{-1}$ for aroylmethyltriphenylphosphoranes were tentatively assigned to the vibration of the P=O band. Orig. art. has: 2 tables. [JPRS]

SUB CODE: 07 / SUBM DATE: 20Jul64 / ORIG REF: 005 / OTH REF: 004

Card 2/2 *mclp*

KABACHNIK, M.I.; GILYAROV, V.A.; CHZHAN CHZHEN-DE

Trialkyl-N-acylimidophosphates as conjugated systems. Izv. AN
SSSR. Ser. khim. no.4:665-669 '65. (MIRA 18:5)

1. Institut elementoorganicheskikh soedineniy AN SSSR.

L 1131-66 EWT(m)/EFF(c)/EWP(j) RK

ACCESSION NR: AP5022927

UR/0062/65/000/008/1331/1336

543.422 + 661.718.1

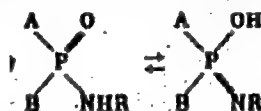
AUTHOR: Matrosov, Ye. I.; Gilyarov, V. A.; Kabachnik, M. I.

TITLE: About amidoimido-tautomerism of N-phosphorylamidophosphates and phosphines

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 8, 1965, 1331-1336

TOPIC TAGS: amide, imide, tautomerism, N-phosphorylamidophosphate, phosphine, IR spectroscopy

ABSTRACT: The amido-imido tautomerism of amides of acids of pentavalent phosphorus,



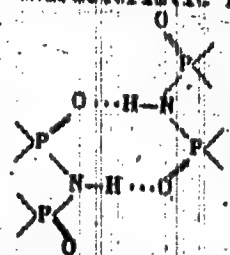
was investigated by IR spectroscopy. The IR absorption spectra of N-phosphorylamidophosphates and phosphines are shown in fig. 1 of the Enclosure. The IR absorption spectra of N-phosphorylamidophosphates and phosphines are shown in fig. 2 of the Enclosure. For the compounds in question, vibrational frequencies corre-

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I 1131-66

ACCESSION NR: AP5022927

sponding to P = N group occur in the 1296-1338 cm^{-1} region and those corresponding to P = O group occur in the 1210-1253 cm^{-1} region. The IR spectra indicate an amide type structure of the N-phosphorylamidophosphates and phosphines. The phosphoryl group may form a strong hydrogen bond to the NH-groups and, thus, cause a strong shift of the bond corresponding to N-H vibration toward wave numbers shorter than 3100 cm^{-1} . As a result, the absorption band characteristic for N-H vibration in N-phosphorylamidophosphates and phosphines,



occurs at 2700 cm^{-1} . Orig. art. has: 2 figures, 2 tables.

ASSOCIATION: Institut elementoorganicheskikh soedineniy Akademii nauk SSSR
(Institute of Elemental Organic Compounds, Academy of Sciences, SSSR)

SUBMITTED: 11Jan65

NO REF SOV: 005

ENCL: 02

OTHER: 002

SUB CODE: GC, OC

Card 2/4

L 1131-66

ACCESSION NR: AP5022927

ENCLOSURE: 01

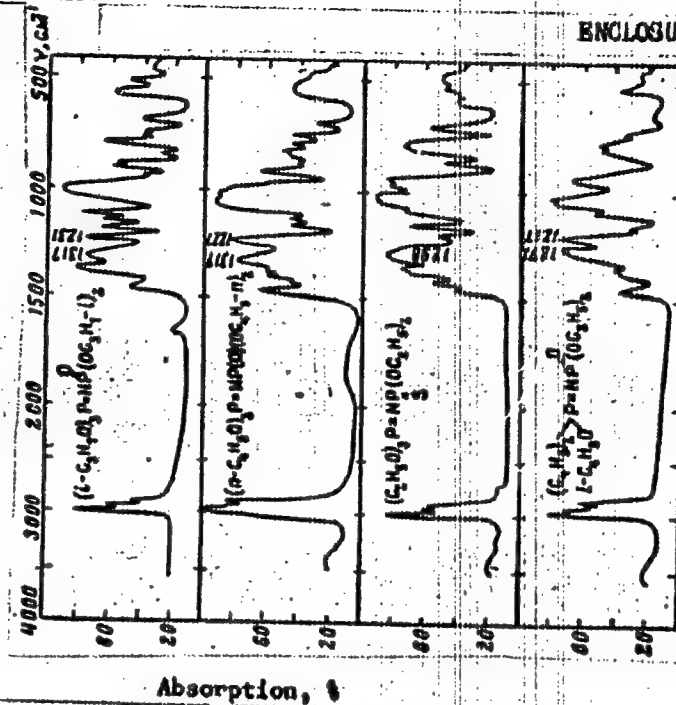


Fig. 1.

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L 1131-66

ACCESSION NR: AP5022927

ENCLOSURE: 02

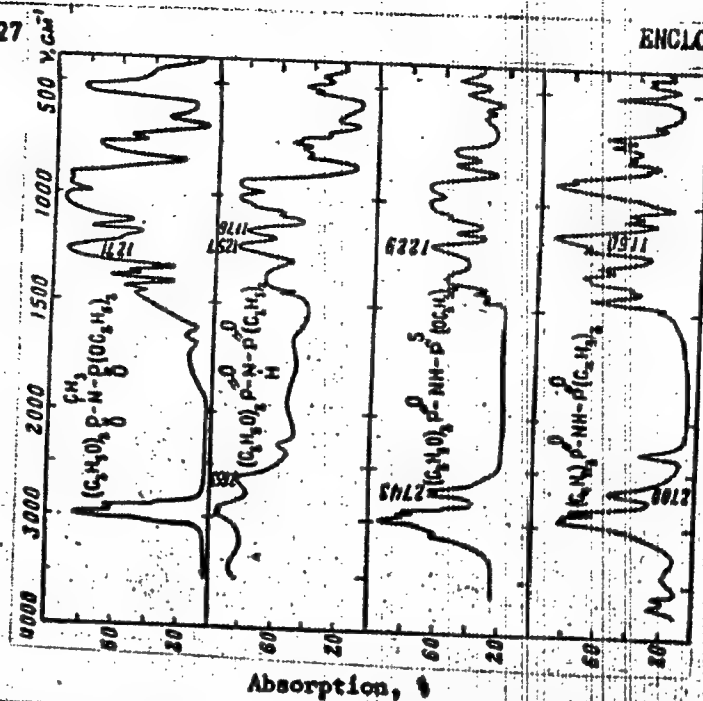


Fig. 2.

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L 5064-66 EWT(m)/EPF(c)/EWF(j)/T/ETC(m) RM/DS/WW

ACCESSION NR: AP5025507

UR/0082/65/000/009/1556/1564 6/49
541.534+541.67 B

AUTHOR: Molin, Yu. N.; Ioffe, S. T.; Zayev, Ye. Ye.; Solov'yeva, Ye. K.; Kugucheva, Ye. Ye.; Voyevodskiy, V. V.; Kabachnik, M. I.

TITLE: Nuclear magnetic resonance study of the keto-enol equilibrium of 3-alkylacetylacetonones

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 9, 1965, 1556-1564

TOPIC TAGS: NMR spectroscopy, ketone, NMR

ABSTRACT: NMR spectra of the following compounds were studied: 3-methyl-, 3-ethyl-, 3-n-propyl-, 3-isobutyl-, 3-isopropyl-, and 3-sec-butylacetylacetonone, and also 2-isopropoxy-2-penten-4-one. The spectra were taken with a JNM-3 instrument (40 Mc) and some were also recorded with an RS-2 spectrometer (80 Mc) at ~ 25C, and the content of enol forms was determined. Alkylacetylacetonones with unbranched substituents were shown to contain cis-enol forms at equilibrium with the ketone; this agrees with chemical data. Compounds with branched substituents (3-isopropylacetylacetonone and 3-sec-butylacetylacetonone) 1/2

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L 5064-66

ACCESSION NR: AP5025507

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lacetone) are almost pure ketones. The slight enolization of these substances does not permit the classification of the enol form in the *cis* or *trans* series on the basis of the NMR method alone. "Measurements with the RS-2 instrument were made at the Tsentral'nyy institut khimii Vengerskoy Akademii nauk (Central Chemistry Institute of the Hungarian Academy of Sciences) with the direct participation of Dr. L. Radich, to whom the authors express their gratitude." Orig. art. has: 5 figures and 2 tables.

ASSOCIATION: Institut elementoorganicheskikh soedineniy Akademii nauk SSSR (Institute of Organometallic Compounds, Academy of Sciences, SSSR); Institut khimicheskoy kinetiki i goreniya Sibirskogo otdeleniya Akademii nauk SSSR (Institute of Chemical Kinetics and Combustion, Siberian Branch, Academy of Sciences, SSSR)

SUBMITTED: 04Jul68

ENCL: 00

SUB CODE: OC, NP

NO REF SOV: 000

OTHER: 014

Card 2/2

MEDVED', T.Ya.; POLIKARPOV, YUDINA, K.S.; KABACHNIK, M.I.

Synthesis of β -ketophosphine oxides. Izv. AN SSSR. Ser. khim.
no.9:1707-1708 '65. (MIRA 18:9)

1. Institut elementoorganicheskikh soedineniy AN SSSR.

L 7898-66 EWT(m)/EPF(c)/EWP(j) RM

ACC NR: AP5024972

SOURCE CODE: UR/0286/65/000/016/0034/0034

AUTHORS: Kabachnik, M. I.; Tsvetkov, Ye. N.; Lobanov, D. I.; Borisov, G.;
Malevannaya, R. A.

ORG: none

TITLE: Method for obtaining methyl-di-(aryl-oxymethyl)- or methyl-di-(β -alkoxy-ethoxymethyl)-phosphine oxides. Class 12, No. 173765

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 16, 1965, 34

TOPIC TAGS: alkoxy phosphine oxide, phosphorus compound, organic phosphine,
hydrocarbon, organic oxide, organic phosphorus compound

ABSTRACT: This Author Certificate presents a method for obtaining oxides of
either methyl-di-(aryl-oxymethyl) or methyl-di-(β -alkoxyethoxymethyl)-phosphines.
The oxide of methyl-di-(chloromethyl)-phosphine is reacted with sodium phenolate
or with sodium alkoxyethylate in an inert solvent such as toluene.

SUB CODE: 07/ SUBM DATE: 20Jul64

nw

Card 1/1

UDC: 547.419.1.07

KABACHNIK, M.I.; MASTRYUKOVA, T.A.; MELENT'YEVA, T.A.; DOMBROVSKIY, A.V.;
SHEVCHUK, M.I.

Conjugation in the systems with a tetrahedral phosphorus atom.
Part 1: Substituted benzoyltriphenylphosphinomethylenes. Teoret.
i eksper. khim. 1 no.2:265-269 Mr-Apr '65. (MIRA 18:7)

1. Institut elementoorganicheskikh soedineniy AN SSSR, Moskva
i Chervitskiy gosudarstvennyy universitet.

L 39000-66 EWT(m)/EXP(j) RM

SOURCE CODE: UR/0379/65/001/006/0729/0733

ACC NR: AP6029721

AUTHOR: Tsvetkov, Ye. N.; Lobanov, D. I.; Kabachnik, M. I.

ORG: Institute of Organoelemental Compounds, AN SSSR, Moscow (Institut elementoorganicheskikh soyedineniy AN SSSR)

52
B

TITLE: Electron effect of the diphenylphosphino-group

SOURCE: Teoreticheskaya i eksperimental'naya khimiya, v. 1, no. 6, 1965, 729-733

TOPIC TAGS: diphenyl compound, secondary amine, vinyl compound, molecular structure, phosphorus, chemical synthesis, dissociation constant, ionization, electron donor

ABSTRACT: Studies of the direction in which secondary amines become associated with the vinyl compounds of trivalent phosphorus showed that vinylphosphines and vinylphosphinites are not analogous to the vinyl compounds of elements having unshared pairs of electrons. This points to the electrophilic character of the groupings containing a trivalent phosphorus atom. In this connection, it was of interest to investigate the electron influence of the trivalent phosphorus atom linked to an aromatic ring, and to compare it with the electron influence of nitrogen in similarly structured compounds. The authors investigated the effect of the diphenylphosphino-group and compared it with the effect of the diphenylamino-group and analogous substitutes containing pentavalent phosphorus. For this purpose, the corresponding n-substituted benzoic

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L 19000-66

ACC NR: AP6029721

acids were synthesized and their dissociation and ionization constants measured. It was found that the diphenylphosphino-group is an electron-acceptor substitute, comparable in its electron-donor effect to the chlorine or bromine. Thus, the beta-orientation in the association of secondary amines with vinyl compounds of trivalent phosphorus is apparently conditioned by the electrophilic nature of the groupings containing an atom of trivalent phosphorus. Orig. art. has: 1 table. [JPRS: 36,455]

SUB CODE: 06 / SUBM DATE: 24Aug65 / ORIG REF: 001 / OTH REF: 015

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ACCESSION NR: AP50225 44

hours, depending on the nature of the substituent in the aniline molecule. The

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Card 3/3

APPROVED FOR RELEASE: 08/10/2001

CIA-RDP86-00513R000619720014-1"

KABACHNIK, M.I.; BALUYEVA, G.A.; MEDVED', T.Ya.; TSVETKOV, Ye.N.; CHZHAN ZHUN-YUY [Chang Jung-ju]

Kinetics and mechanism of bromination of vinylphosphinic acid derivatives.
Kin. i kat. 6 no.2:212-220 Mr-Apr '65. (MIRA 18:7)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

L 33128-66 EWT(m)/EMP(j) RM

ACC NR: AP6024164

SOURCE CODE: UR/0192/65/006/005/0691/0698

AUTHOR: Kabachnik, M. I.; Mastryukova, T. A.; Matrosov, Ye. I.; Fisher, B. 51

ORG: Institute of Organoelemental Compounds, AN SSSR) Institut elementoorganicheskikh sovedineniy AN SSSR)

TITLE: Infrared spectra and structure of phosphorusmonothioacid salts

SOURCE: Zhurnal strukturnoy khimii, v. 6, no. 5, 1965, 691-698

TOPIC TAGS: IR spectrum, phosphoric acid, organic phosphorus compound

ABSTRACT: The infrared spectra of salts of diethylthiophosphoric and dimethylthiophosphoric acids were studied. It was shown that the anion of ammoniacal and alkali salts of these acids have a mesomeric structure with the distribution of ionic charge between the atoms of the triad. Salts of nonalkali metals of diethylthiophosphoric acid evidently have an intracomplex structure. Depending on the nature of the metal, the distribution of the bonds in the phosphorus moiety can approximate the thiolic (Cu, Ag, Zn, and Hg salts) or the thionic (Ca, Pb, and Mn salts) type. Salts of heavy metals of dimethylthiophosphinic acid also evidently are intracomplex in character, but their thionic character is more strongly pronounced. T. K. Nazarova and M. I. Volkova took part in the experimental phase of the work. The authors thank G. B. Shaltupier for his valuable advice during discussion of the work. Orig. art. has: 3 figures and 13 formulas. [JPRS]

SUB CODE: 07 / SUBM DATE: 12Feb65 / ORIG REF: 017 / OTH REF: 015

Card 1/1BK

UDC: 535.343

09/5 1753

L 30039-65 EPA(s)-2/EWT(m)/EPF(s)/LPP(n)-2/EPR/EMP(j)/T Pc-4/Pr-4/Pa-4/Pt-10/
Pu-4 GG/RM/WH 8/0190/65/007/001/0033/0038
ACCESSION NR: AP5003825

AUTHORS: Chikishev, Yu. G.; Tsetlin, B. L.; Rafikov, S. R.; Polikarpov, Yu. M.;
Medved', T. Ya.; Kabachnik, M. I.

TITLE: Radiation polymerization of diphenylvinylphosphine oxide in a melt

SOURCE: Vysokomolekulyarnyye soedineniya, v. 7, no. 1, 1965, 33-38

TOPIC TAGS: diphenylvinylphosphine, polymerization, radiation polymerization/
ARKh 200 80 x ray apparatus

ABSTRACT: Radiation polymerization of diphenylvinylphosphine oxide (ODPVP) obtained as described by M. I. Kabachnik, T. Ya. Medved', M. Polikarpov, and K. S. Yudina (Izv. AN SSSR, Otd. khim. n., 1961, 2029) was investigated. The polymerization was studied as a function of radiation intensity (25-3500 rad/sec), radiation duration and temperature (118-2000) at a pressure of 10^{-5} - 10^{-6} mm in an X-ray apparatus of the type ARKh-200-80. The polymer specimens were tested for composition, density, infrared absorption spectrum, thermomechanical properties, viscosity, and molecular weight after distilling away the monomer at 160-1700 for 10-60 hours. The ODPVP precipitate is a white amorphous powder with a specific gravity of 1.220 (monomer 1.267), a pouring temperature of 230-2500, and a molecular weight of about 35-45000

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L 30039-65

ACCESSION NR: AP5003825

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for the reprecipitated polymer and 16-24000 for the distilled polymer. The thermo-mechanical compression curves for the polymer are shown in Fig. 1 on the Enclosure, and the infrared absorption curves for the polymer and monomer are shown in Fig. 2 on the Enclosure. It was found that the yield changed linearly with time, showing different slopes for different radiation intensities (0-60% yield in 70 minutes for 800 rad/sec and 0-60% in 110 minutes for 400 rad/sec). The polymerization rate was also linear with radiation intensity (0-4 by weight %/min⁻¹ as radiation was changed from 0-4000 rad/sec). The yield by weight and the molecular weight were found to be independent of radiation intensity and were 20% and 16000 respectively at a total radiation of 0.12 Mrad at 1300 for the distilled ODVVF. The polymerization rate as a function of temperature is shown in Fig. 3 on the Enclosure. Activation energy was significant at 6.3 Kcal/mole at temperatures of 120-2000. The kinetic relations for the polymerization process differ from all other described radiation polymerization processes based on either the radical or ion mechanism. Orig. art. has: 7 figures.

ASSOCIATION: Institut elementoorganicheskikh sovedinaniy AN SSSR (Institute of Organic Compounds, AN SSSR)

SUBMITTED: 26Feb64

ENCL: 02

SUB CORR: 00

EO REF SOV: 009

OTHER: 004

Card 2/4

MASTRYUKOVA, T.A.; MELINT'YEVA, T.A.; KABACHNIK, M.I.

Reactivity of phosphorus thio acid salts. Part 6: Alkylation and phosphorylation reactions of potassium diphenylthiophosphinate. Zhur. ob. khim. 35 no.7:1197-1201 J1 '65. (MIRA 18:8)

L 25325-66 EWP(j)/EWT(m) RM

ACC NR: AP6019323

SOURCE CODE: UR/0079/65/035/008/1476/1481

AUTHOR: Kabachnik, M. I.; Gilyarov, V. A.; Kudryavtsev, R. V.

27
B

ORG: Institute of Organoelemental Compounds, AN SSSR (Institut elementoorganicheskikh soyedineniy AN SSSR)

TITLE: Study of conjugation in systems with a tetrahedral phosphorus atom. Phosphamide system

27

SOURCE: Zhurnal obshchey khimii, v. 35, no. 8, 1965, 1476-1481

TOPIC TAGS: tautomerism, organic phosphorus compound, methylation

ABSTRACT: The reactions of O,O-diethyl-N, N'-diphenylphosphamidine and of O,O-diethyl-N-phenyl-N'-m-tolylphosphamidine with CS₂ were investigated. The products were O,O-diethyl-N-phenylamidothio-phosphate and aryl isothiocyanates. Formation in the second case of a mixture of phenyl isothiocyanate and m-tolyl isothiocyanate confirmed the existence of phosphamidine tautomerism. In the methylation of Na derivatives of diarylphosphamidines with MeI, a mixture of two methylation products formed when two different aryl groups were contained in the diarylphosphamidine. The ratio between the two methylation products depended on the nature of the substituents in the aryl groups. The tautomerism of diarylphos-

Card 1/2

UDC: 546.185+546.171.1

L 25325-66

ACC NR: AP6019323

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phamidines and the dual reaction capacity of their Na derivatives indicated a high mobility of bonds in the $-N = P - N =$ group and consequently a capacity of phosphorus to participate in conjugation. Orig. art. has: 12 formulas. [JPRS]

SUB CODE: 07, 06 / SUBM DATE: 05Jun64 / ORIG REF: 005 / OTH REF: 005

Card 2/2 CC

L 23590-66 EWT(m)/EWP(j) RM

ACC NR: NP6016689

SOURCE CODE: UR/0079/65/035/009/1574/1577

AUTHOR: Kabachnik, M. I.; Mastryukova, T. A.; Shipov, A. E.

ORG: none

TITLE: Method of producing oxides of nonsymmetrical tertiary phosphines

SOURCE: Zhurnal obshchey khimii, v. 35, no. 9, 1965, 1574-1577

TOPIC TAGS: organomagnesium compound, aluminum oxide, chromatography, silica gel, alkylphosphine, alkylphosphine oxide

ABSTRACT: The reaction of dialkyl phosphites with organomagnesium compounds, followed by treatment of the reaction mixture with alkyl halides, was studied and found to be a general preparative method for producing oxides of nonsymmetrical tertiary phosphines. In most cases the tertiary phosphine oxides are formed in yields close to quantitative. The products are sufficiently pure, giving only one spot in thin-layer chromatography both on aluminum oxide and on silica gel; R_f values are cited. Orig. art. has: 1 table. [JPRS]

SUB CODE: 07 / SUBM DATE: 14Jul64 / ORIG REF: 011 / OTH REF: 014

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UDC: 546.183:547.25